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AN ILLUSTRATED MONTHLY

Editor JOHN HOPKINS

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Background Information

人間社会の政治と経済学 第1回 政治と経済学の歴史 第1章

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THE
National Geographic Magazine

VOL. X

SEPTEMBER, 1890

No. 1

THE COMMERCIAL DEVELOPMENT OF JAPAN

By D. P. ALEXIS.

Chief of the Bureau of Statistics, Treasury Department

With new currency, a new tariff, new relations to her foreign population, and new treaty relations with the commercial world, Japan's commercial future is a subject which naturally attracts attention and also excites much conjecture; and when it is considered that the trade relations of that country with the United States are growing more rapidly than those with any other nation, the subject becomes one of especial interest to the people of the United States. Our exports of merchandise to Japan, which 20 years ago were but a couple of millions of dollars annually, had reached five millions by 1880, nearly eight millions in 1886, over 13 millions in 1887, 20 millions in 1888, and between 17 and 18 millions in 1889. Our purchases from Japan of articles which we must have, such as raw silk and fibers for our manufacturers, tea, rice, and other articles which we cannot produce at home, have constantly grown, even while our purchases from other parts of the world were being reduced, and are now from 15 to 20 millions a year, against one-half that sum fifteen years ago. Over a thousand citizens of the United States are now residing in Japan, many of them actively participating in her foreign commerce, two-thirds of which is still conducted by foreigners, while over seven thousand citizens of Japan are residing in the United States, many of them as students, and over twenty-seven thousand of her people are residents of the Hawaiian Islands, which are now under the United States flag. No European nation except Great Britain has so many citizens residing

In Japan as in the United States, and no country has as many Japanese citizens under her flag as has our own, while no nation is so closely associated with the growth of her commerce or has greater reason to expect an active participation in it.

Japan has during the past few years assumed an important rank in the list of commercial nations, and in doing so has vastly increased her commerce with the United States. The nation instrumental to first opening the doors of that country to commerce with the world. Within the last two years new treaties have been made with the principal countries of the world, by which their citizens are given equal privileges with the citizens of Japan in all parts of the empire and made subject to its laws, which have been recently revised. Also new commercial codes have been established, new currency adopted, new tariffs created, and new ports opened for commercial intercourse with the world. Lastly, Japan and the United States have become near neighbors physically, Japan's northern territory, the Kurile Islands, lying within 50 miles of the Aleutian Islands, while her southern extreme, Formosa, is within 200 miles of the Philippines, thus making a complete chain along the Pacific front of Asia. From Yokohama, her most important port of entry, the distance to Manila as a trade center is practically the same as that to Hongkong, which has proved so important a distributing point for British trade. From Yokohama to Honolulu, a distance of 3,100 miles, Japanese steamships now regularly ply, and from Yokohama to the Pacific coast ports of the United States the distance is far less than to the ports of any other great commercial nation, while the opening of an Isthmian canal would greatly lessen the water route between Japan and the Gulf and Atlantic ports of the United States, from which she draws so large and constantly increasing a proportion of her supplies.

To the readers of *THE NATIONAL GEOGRAPHIC MAGAZINE* the earlier commercial relations of Japan to the world and the part which the United States has had in developing them are as well known that they need not be recounted in detail. Portuguese adventurers, who were the first to establish commercial relations in China, soon extended their trade to Japan, where sailors landed in 1542 and within a few years established an active commerce. Encouraged by that success, the Dutch East India Company in 1588 dispatched five merchant vessels to Japan. In 1609 other Dutch ships arrived and were well received by the Japanese, who conceded them a port on the island of Hirado

and the privilege of establishing a "factory" or trading post and settlement. The hostilities between the Portuguese and Dutch, however, and the extreme demands of the Portuguese, who considered themselves already established in the commerce of Japan, coupled with dissatisfaction with the attitude of foreign missionaries toward the popular religion of Japan, led to the exclusion of all traders except the Dutch, who were permitted to take up their residence on a small island, Deshima. Here they remained for more than two centuries in undisputed monopoly of the entire European trade of Japan. In 1852 serious complaints of mistreatment of American sailors wrecked on the coast of Japan having been made, Commodore M. C. Perry, with a fleet of American vessels, was sent by the United States government to demand from Japan a treaty by which American vessels should be allowed to enter one or more of its ports to obtain supplies, and, if practicable, that Americans should also be given general trading privileges in these ports. This undertaking was peacefully carried to a successful termination, a treaty being signed March 31, 1854, by which the ports of Shimoda and Hakodate were opened as harbors of refuge, supply, trade, and consular residence to the United States. This action was quickly followed by a successful demand for similar privileges by the British, Russian, and Dutch governments, and by 1860 the ports of Hakodate, Katagawa, Nagasaki, and Ningata were opened to the commerce of the leading nations of the world.

From this time forward the commercial relations of Japan with the world made rapid progress. In 1860 and 1861 a Japanese embassy visited the United States and Europe. The decade 1860-70, while largely occupied by dissensions, and in some cases hostilities, between the elements favoring commercial relations with the world and those preferring former methods, saw marked developments within Japan, the beginning of the adoption of the customs and methods of western nations, and laid the foundation of the progress which has since been made. In 1871 another embassy, consisting of the ambassador and junior prime minister, Iwakura, the vice-minister, Kido, Count Ito Hirobumi, the three ministers of the cabinet, and several officers, sailed from Japan to visit all the nations having treaties with that country.

The development of Japan which followed these tours of observation and intercourse with other nations of the world was very rapid. Schools were increased, students were sent abroad to obtain a higher education and study foreign methods, internal

highways made, steamships built and communication with foreign countries increased, manufacturing industries encouraged and multiplied, and business men from other countries welcomed to participate in the commercial and business development of the country. As a consequence, the foreign commerce of Japan, which in 1878 amounted to less than \$20,000,000, in 1898 was over \$218,000,000, while the development of railroads, manufactures, and internal industries had been equally great.

The United States, which has been constantly and actively associated with the development of Japan, has participated largely in the growth of her commerce. Thousands of young men from Japan have visited the United States as students, and thousands of merchants and business men from the United States have gone to Japan as instructors both in educational and commercial lines. As teachers and professors in schools and colleges, as editors and publishers, as merchants who engage in both importing and exporting, as manufacturers, as constructors of railways and telegraphs and in establishing modern electrical aids to commerce, citizens of the United States have been active in Japan. As a consequence, the trade relations between the two countries have grown with greater rapidity than between Japan and any other nation. In 1881 the imports from the United States formed less than 3 per cent of the total importations into Japan, while in 1898 they formed 15 per cent of the total importations. Meantime Great Britain's share in the imports of Japan fell from 52 percent in 1881 to 23 per cent in 1898. The United States is also Japan's largest customer by reason of the fact that the chief export products of Japan are articles required by the manufacturers of the United States and cannot be produced in this country.

Of the \$21,500,000 total exports to the United States in 1898, the value of \$12,020,000 consisted of raw silk, \$1,250,000 of tea, \$1,847,000 of mats for floors, \$247,000 of rice, \$336,000 of chemicals, drugs, etc., and \$3,109,000 of manufactures of silk, while Japanese foot-mats, manufactures of bamboo, lacquered ware, and other products peculiar to the Japanese are prominent in the list. Exports from Japan to the United States have steadily grown, especially since the development of the silk manufacturing industry in this country. The United States is the largest purchaser of raw silk from Japan, whose total exportations of raw silk exceed \$25,000,000. France is the next largest customer in this line, her purchases of raw silk from Japan in 1897

amounting to \$10,000,000 in value against \$16,000,000 by the United States. The exports from Japan to the United States in 1881 were \$5,500,000 in value, being 66.5 per cent of the total exports of that year, and in 1898 were \$23,500,000, or 29.56 per cent of the total exports of that year.

Japan's imports from the United States have grown with even greater rapidity than her exports to the United States. In 1881 they amounted to but \$600,000, and in 1898 had reached \$20,000,000 in value. They have increased even more rapidly than the total importations of Japan, our share of her Import trade having risen from 5.72 per cent in 1881 to 14.57 per cent in 1898, while the United Kingdom, our principal competitor in that market, which furnished in 1881 52.51 per cent of the total imports of Japan, supplied in 1898 22.84 per cent. In the fiscal year 1892 our total exports of domestic merchandise to Japan amounted to \$8,284,282, and in 1899 to \$17,158,970. Of this total of \$17,158,970 exported to Japan in the fiscal year just ended, the largest item was raw cotton, which amounted to \$5,755,784 in value; the next largest was tobacco and manufactures thereof, amounting to \$2,927,700; then followed iron and steel and manufactures thereof, \$2,578,613; illuminating oil, \$2,241,921; broad-stuffs, \$1,447,632; wool and manufactures thereof, \$520,393; distilled spirits, \$414,364; paper and manufactures of, \$350,118; instruments for scientific purposes, \$232,000; provisions, \$212,408; leather and manufactures of, \$209,611; clocks and watches, \$167,955; paraffine wax, \$132,273; lubricating oil, \$119,553; chemicals, drugs, and dyes, \$80,418; condensed milk, \$70,701, and India-rubber manufactures, \$67,370.

Taking up the great class of iron and steel and examining it in detail, we find that the exports of locomotive engines in 1899 amounted to \$125,514; builders' hardware, \$26,498; rolling-machines, \$5,270; car wheels, \$5,624; greases, \$38,386; machinery not separately specified, \$700,611, and iron and steel not separately specified, \$1,405,715.

A detailed study of the exports from the United States to Japan with the purpose of determining the articles most in demand in that country during the decade, and in which the export trade has most rapidly grown, shows that the largest item is raw cotton, the value of which exported in 1880 amounted to but \$86,211, had grown to \$7,455,526 by 1898, and was \$5,755,784 in 1899, the imports of 1898 having been somewhat excessive. Leaf tobacco,

which was exported in such small quantities prior to 1894 that it found no separate statement in the official accounts, amounted in 1894 to \$820, in 1895 to \$35,124, and in 1896 to \$2,414,492. Cigarettes amounted in 1890 to \$76,556, in 1891 to \$137,815, and in 1892 to \$445,261. Illuminating oil, which in 1890 amounted to \$9,559,295 in value, was in 1892 \$2,941,972. This reduction is due in part to the active competition by Russian and Sumatran petroleum and in a small degree to the fact that Japan is now producing some petroleum from her own wells, though a recently published statement indicates that the product is small and the cost of producing practically as great as importing from other countries. It is proper to add, however, that the reduction indicated by the figures quoted is more apparent than real, and is partially due to a reduction in price per gallon, the total exports of illuminating oil to Japan in the fiscal year 1893 being 32,705,180 gallons, against 37,892,560 gallons in 1890. Flour has increased from \$127,320 in 1890 to \$722,710 in 1892. This increase is evidently due to a growing disposition among the Japanese to consume more of this class of food rather than rely as largely upon rice as in former years, since the number of foreigners in Japan, other than Chinese and Koreans, amounts to but about 5,000, and has not materially increased during the period in which our exports of flour to that country have more than quadrupled.

The growth of the importations of tobacco into Japan has been phenomenal. In 1892 the total importation of tobacco, leaf and cut, was valued at \$40,000; in 1893 it was \$74,000; in 1894, \$212,000, and in 1895, \$2,350,000, this extraordinary importation of 1895 being due in part to the increased rate of duty provided by the new tariff; but the fact that in 1897 it was three times as much as in the preceding year would indicate a rapid growth in the demand for tobacco. An examination of the table of exports of tobacco from the United States shows that the markets of this country benefit by practically all of this increase, the exportations of tobacco from the United States to Japan in the fiscal year 1895 being \$2,167,700 in value, as against \$671,272 in the preceding year, prior to which time there had been a steady growth in the exports of tobacco from the United States to Japan.

In paper and its manufacture the export trade to Japan has grown very rapidly, the total exports of this class being, in 1890, \$1,605; in 1893, \$10,126, and in 1895, \$350,118. Instruments for scientific purposes increased from \$0,441 in 1890 to \$34,600

of which the exports only began to be ascertained officially in 1868, amounting in that year to £55, and in 1874 to £7,315, in 1878 to £127 &c., and in 1889 to £132,273. Minerals, drugs and dried vegetables formed the principal increase from £22,511 in 1868 to £7,571 (1889). In the same period iron also increased from £11,112 in 1868 to £1,750 in 1889, and coal, salted or packed from £6,816 in 1868 to £1,250. Japan had its industrial base and a steady demand in Japan, owing to the fact that the number of cotton weavers in the home & foreign trade will for this purpose be continually increasing. The value in the year of our last report gave us to the last period as £18,762, or 26.2% of each £700, but it is now £10,000. It is to be noted however according to the latest reports of the U.S. Dept. of Agriculture that the total is still £10,000, or about half for our £1,000 in 1889.

Expectations of a boom in cotton in Japan have been the reason of the rapid increase in the manufacture of cotton cloth in that country, especially for the last fifteen years. According to the latest statistics, however, exportation of raw cotton in 1889, however, was only 1,000 bales, being the same as last year, in 1888, 80,775 lbs. in 1887, a number 25% less. It is a large decrease due to the increase in the number of cotton gins in Japan, though the American Cotton has gained in popularity with the manufacturers, largely with the past few years. The price has shown a tendency to fall, so that it is more satisfactory for use in manufacturing than that which they had been accustomed to obtain from China and Thibet, the latter in a permanent cotton bearing order, & not getting better results. As a consequence, imports of American cotton is from a much larger share of the total importations, to Japan than in either China or India, where large quantities are brought in the market of proximity with cheapness of labor, & good cotton production. Japan, also, for a long time, has a considerable amount of cotton of her own, though it cannot supply the wants of her cotton manufacturing industry.

The culture area in Japan is but 100,000 square miles, or less, of which the bulk of the ground, where but about 10 per cent of her land is under cultivation and is to compare very small, if compared with the agricultural population, rocky islands and slopes

not in a state of development to permit it. It will be remembered that Japan will in time take a leading place in a market of about 47 million, and must therefore devote most of her available land to the production of foodstuffs. A large part of the population is still said to live on the coast. I do not believe that they are likely to be replaced by cotton, which is at present very largely cultivated in the country, and is a greater crop than the tea. Cotton is being cultivated in Japan now, however, quite largely, the total number of acres in 1899 being 4,348,702, against 3,438,131 in 1898 and 2,810,134 in 1897. It is also apparent that Japan will not grow cotton from other parts of the world in large quantities of the raw cotton which she itself is growing on her lands with comparative, and as far as can be in the existing market has a ready market for her own. Very naturally, then, from the present condition of affairs, it is seen that it is to be assumed that the market for American cotton will not grow especially if she continues to give up imports to foreign countries. It is probable that the cotton produced in the United States

that the market at present for these articles of a certain value is not easily discerned by oral produce or manufactured.

The importance of labor being in fact a great one of Japan, more particularly in Japan, making but a small part of the total output gives what a call for large industrial markets, so that on page 61 Peacock writes a good deal of wages in Japan have very much increased in the past few years and are likely to continue to increase, also that the scale formerly expressed will probably indicate of a year's time adding more power with the other factor of labor the cost will rise & in driving the manufacturers of other parts of the world out of the markets there has been no such area, to have been justified by the experiment. An interesting instance of this statement is seen in the importations of Japanese labor. The opinion was expressed a few years ago that the unskilled of Japanese workmen in the foreign countries of Germany would be brought to Japan in sufficient numbers to a minimum to be the, of course, of course and in other instances of a similar character. Experience, however, has but justified this belief. The importation of Chinese labor to Japan has been to the extent figures of the Japanese government give, the amount in 1894 \$1,619,000 & in 1895 \$1,618,000.

The other effect of a tariff must be the disappearance of the foreign market which extremely important it can be to the Japanese. It has just been shown to general, as above, by the fact that in 1894 foreign trade exports amounted to 40 per cent of the total exports of \$11,750,000, and imported \$1,800,000 of the total imports, we have also seen that about \$1,600,000 of the foreign trade of the same foreign country of Japan in 1894 was due to the foreign trade to \$11,750,000, \$1,800,000, or 16 per cent, was due to foreign. All of the foreign trade of Japan generally is it will be seen in the report the effect of the new policies which will pull together the Japanese Government and the people of the country to meet the men of foreign from a number of ways. If they have already been merged together at a great harvest price, and are together which the former idea is very conceivable.



THE BAD LANDS OF SOUTHERN DAKOTA

J. F. N. H. DAUBEN.

C. S. Geographical Survey

There are bad lands of greater or less area scattered throughout the central and southern portions of the West. The most extensive are known as the sandstone bad lands of South Dakota, on White River and a part situated east of the Black Hills. They begin about 60 miles from Sioux City and extend about 120 miles southeastward. They run nearly parallel to the Nebraska border. There are however two parts. The northern and the southern group consist of 200 square miles. They attain their greatest elevation on the south side of the valley, rising to 1,000 feet between White River and the south fork of the Cheyenne river. This valley is high and narrow, and is composed of the light colored layers of the White River formation which is a series of sandstones and

The principal features in bad land country here are numerous strips of the moderately hard clay and the steep slopes, which together afford excellent grazing land and situations for cultivation. Somewhat east of the sand lands occur on the north side of the White River valley. There is no water except a small stream on the plain. It was selected as a tourist goal by Custer, who as the White River and the south fork of the Cheyenne river, kept on their surveys during the progress of the campaign. The main branch extends out beyond the southwest corner of the plain, and eastward follows in endless variety. Numerous ridges, sharp and narrow, and steep, fed by little, unnamed streams, prairies, and cañons, make the surface of the plain. As the stream progresses, portions of the surface have been scoured into narrow ridges, steeper still by trees, rounded slopes, prairies, and cañons, all forming in endless variety. Virtually all of the land remains as grass-covered tracts which, however, are bounded by high, rugged cliffs of clay, and rocky gullies cut by intricate winding cañons. A variation is more rapid than the formation, the old prairie lands on the upland being the yellow, the yellowish green, and the red. The latter is hardly so monotonous in its texture, but owing to such a difference in texture, it is carved and channeled into great variety of forms. Consequently the lands of sandstone and the red clay have almost equal to the complexity, if not as much, of the prairies. The lower beds of the formation are filled with thin, weathered tracts of clay,

THE LEXAN AND THE KEE

at the time, the author's set down in order to determine whether or not the surface fragments may have been washed away.

The station on a high point in the west of the land, a few degrees to the east, is presented by a bare rock face some thirty feet high at right angles. It is sandstone, the sand and shales showing every variety of form due to varying heat, time, pressure, etc. The pieces of rock in the plain are found in various sizes, ranging from a few inches to the whole block being composed of large stones. A typical general view of the land has a place on page 6 in Ward's book. Below some 20 feet of bedrock the soil is thin, yellowish brown, containing a number of small pebbles which have probably been brought along from the surface.

A typical general view of the land has a place on page 6 in Ward's book. Below some 20 feet of bedrock the soil is thin, yellowish brown, containing a number of small pebbles which have probably been brought along from the surface.

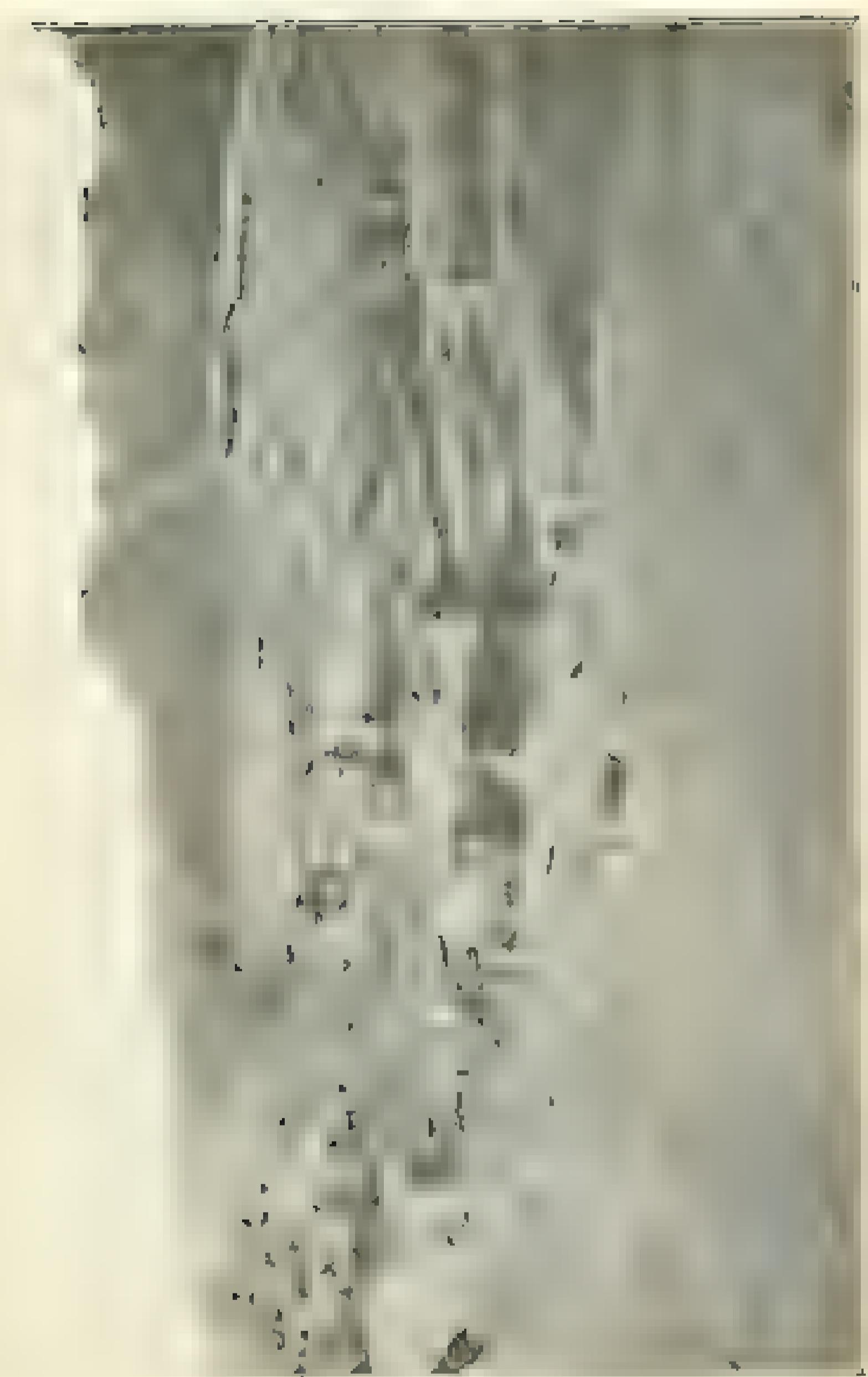
Near the center of the basin the greenish yellowish rock of the "Coral" point before the basin is reached, is not to be seen, and the surface is covered with a thin layer of soil. The soil is thin, yellowish brown, containing a number of small pebbles which have probably been brought along from the surface.

Very few plants are to be found, and none more than a few species of ferns and a few small shrubs.

The greater part of the soil has been washed away, leaving a thin layer.

At present the author has no good example of the basal fragment of the rock, but there are a number of other specimens. They are rounded fragments of the rock, and the fragments are of various sizes, some of them being quite large. Some of them are broken, some of them are whole, and some of them are broken into two or three pieces. A typical specimen is shown in the figure.





THE WEST IN THE KANSAS CITY

from severs just west of the city of the Colorado and North railway black hills, were. If a spring on the extent of the prairie, it was never written. We had to go from the prairie, but the road, to the North or Western part, is so much more. At the station we were there in fact, and a fairly account of the Black Hills may be given in a few days. I am going to do the best of what I can think and I hope of the way & between the hills in case of the timber and the timbered draw.

For we have very far north extreme of Nebraska and at the end of winter and at a distance of two hundred miles. Near the head of the river, which is the River Cheyenne, to the town from Weston, comes the Nez Perce, to be a small tributary. A number of years ago these had been respecting the boundary between the prairie, the prairie boundary and the valley of the Cheyenne, and the North. I have often been to both parts, Northern and Southern, by name of topographic features, the Cheyenne, the Cheyenne, a small elevation of land, up roads as far as I could get.

THE WEST INDIAN CYCLONE OF AUGUST 14, 1860 (4)

By E. R. LAMBERT

Professor of Meteorology, U. S. Naval Observatory

The Author has published a paper on the West Indian Hurricane of August 14, 1860. It will not be quite necessary to the fact that for the first time in history the United States possessed, before us, the information was disclosed and had completely got out of circulation. As a guide from the general state of the storm sufficient data is given for demonstrating the fury of the winds over the West Indian Islands of the Lesser Antilles and over the Pacific Ocean. It is interesting as giving a picture of the violence of the hurricane and the reason that she possessed the advantage of a full report being made of her. Whether the author is of the opinion of the correctness of the information given before the arrival and where a sensible distinction the truth of the facts of the disturbance were recorded.

Extending nearly four weeks on the record from the first from a Hurricane to the second bounds of the Lesser Antilles. To

The west of the Rio Grande lies between the hills and the sea. Not a mile west about you can travel from town to town without passing over the barren islands of the salt of the gulf, which extend from the Turks (which is on the east about six leagues) and Mayaguez in the northwesterly direction to the mouth of the Rio Grande, which is seventy miles long, and the northern boundary of the island, mostly west of the coast line, may of the southernmost islands of the Bahama group, opposite Bahamasa, a small island off the coast of Cuba, where it represents the beginning of the outer line from August 7 to 12.

I wrote last year also to say that the winds, all of known character, at the beginning of what is said, in the first of the past four hundred years have been more violent by night than day, and were attended by a storm, one of a rare severity. The first of these occurred in only, 1519, the second in 1521, when the movement was so large in our harbor that the port of San Juan was lost for 1000 feet on August 21, 1525, when the wind reached a sudden

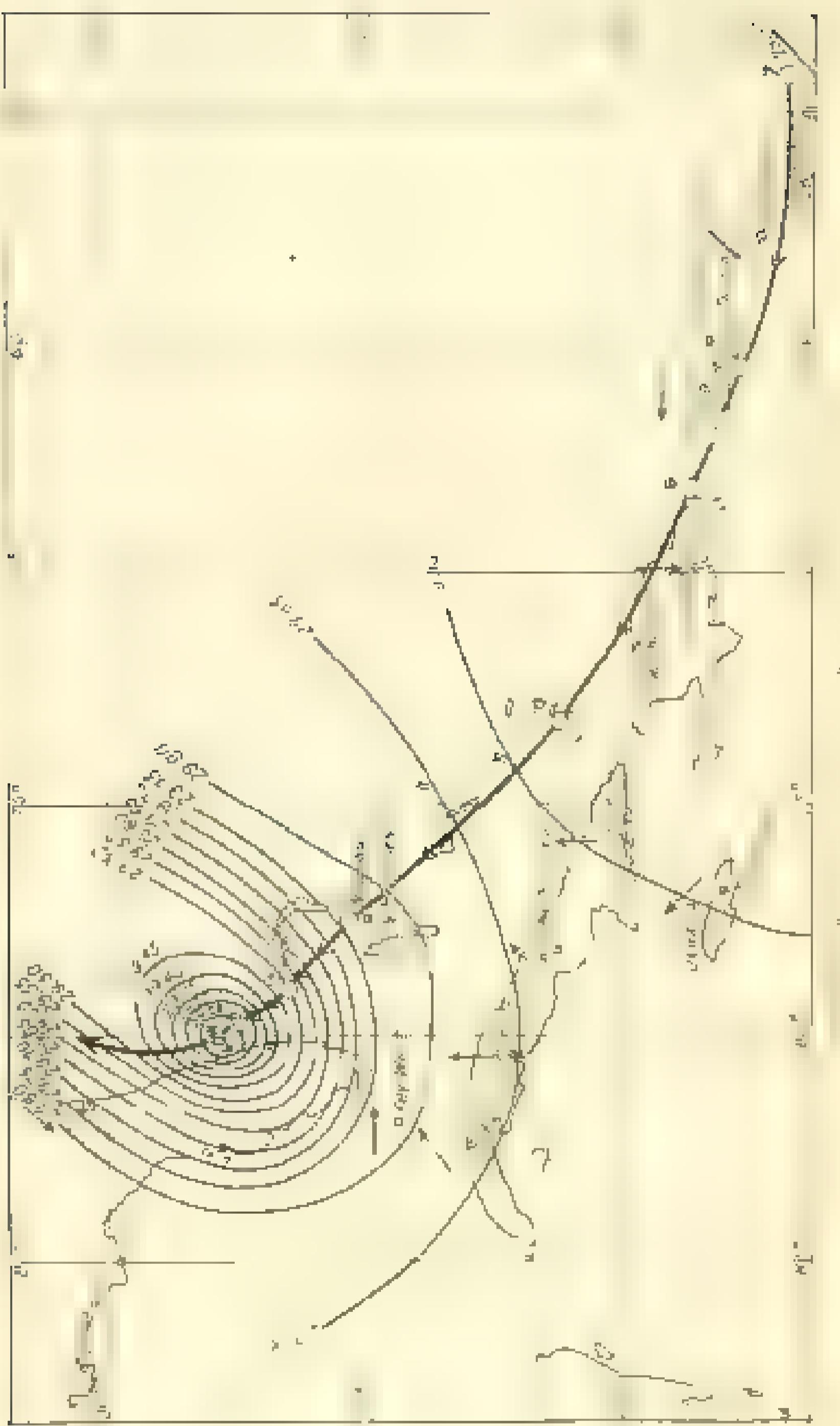
cessation. See the *New York Times* of August 8, 1859, p.

18, and, states that the most violent hurricane in

present times occurred on the night of August 26, 1847, continuing from about at night until the middle of the morning. It was reported to be the greatest in the West Indies. Trees were torn up by the roots, fields were uprooted, and more than one thousand, and a very number of people were killed and buried under the trees or houses. On September 4, 1856, a hurricane caused great damage at Puerto Rico. On September 21, 1859, crops were damaged by the wind, and a famine followed. A violent hurricane, which was accompanied by many persons perishing, took place October 20, 1865. In August 14, 1866, a large gale passed to the south of Puerto Rico, doing considerable damage to the south coast and destroying the crops in the interior.

Very often in the warm and exceedingly moist climate of the tropical region, the influence of August 7-14, 1866, influenced the

population, and Boston Terre, St Christopher, Morning northeast



Cuba definitely suffered severely, and on the coast of St. Vincent nearly 100 persons were reported killed and villages and estates were destroyed. In the island of Nevis, St. Christopher, etc., Antigua the alarm was less severe, where three persons died. Grenada was the only one of the Virgin Islands which suffered to any great extent.

Between 8 and 9 a.m. of August 8 the hurricane entered the Gulf of Mexico having reached a position near the north coast of Santa Domingo. Following a west-northwest track, the hurricane crossed the Bahama Islands during the night of the 8th. The position

at 11 a.m. of the 9th was about 10 miles east of Santiago and Puerto Principe, Cuba,

morning of the 11th there was evidence at Nauru of the approach of the storm-center. During the day the hurricane

at Jupiter, Fla., was first. On the following day, August 12,

gale from the northwest, and by the morning of the 13th the

had reached a velocity of 52 miles an hour. From the 14th to the 16th the storm-center drifted westward and north-northwest along the Atlantic coast, attended by severe gales and

passed onward over the ocean beyond the tip of the Mississippi.

With data now available it is not possible to determine the intensity of the hurricane at various points owing to the fact that on August 7 and 8 the character and extent of the result-

the Leeward Islands, Martinique, and San Domingo. During the period it was possible to advance from San Domingo the Baham Islands and thence northward off the coast of the United States, no observations have been received which give the exact strength of the storm as measured by instruments of different types. Observations of the character, made

to shipping stores where it was found to be inferior to the former. It is later and more extensive information to be made available at some other time. In fact, even when the history of Luis' destruction is completed, the casuality of his crew and a record of his leaving the port would be known. At present there is no record of his property.

Turning to the "Journal," it is noted taken up by Puerto Rico by the steamer of the United States and to the first of it that would correspond to only 100 & 1000 feet and mean atmospheric pressure of 30.000 feet. The barometric character and a pressure of 30.000 feet, of the atmosphere, and that the weather, as far as not possible, to the storm's characteristics will be able to be confined to within a limited range.

The Weather Bureau office at San Juan at 8 A.M. on the 7th began to sail at 11 p.m. of the 7th, and the lowest recorded pressure of 29.93 inches, was recorded at 8 A.M. on the 8th. The wind was variable, with occasional gales during the night of the 7th, and gradually settled into a gale from the northeast to the northwest, the morning of the 8th. The maximum wind at the height of San Juan between 7 and 8 A.M. of the 8th, was 50 to 60 miles an hour. The observer reports that preceded by

lightning and they were not severe, being scattered by him. The rainfall was very heavy, a total of 6.4 inches in 8 hours, or which 4.18 inches fell from about 8 p.m. of the 7th. Ponce and Caguas on the south coast were working, with a loss of about two hundred thousand dollars in property loss and at least \$100,000.00 worth of property damaged on the island as a result of the same. Two large wrecks destroyed and others were sunk in the main body of the working population will be further detailed on the 10th. Details their loss of government property presented below.

In conclusion, it would be proper to refer to the action taken by the United States Weather Bureau in giving warning along the coast of the central part of the atmosphere on the 7th. It is already upon the records of the morning reports of Aug. 8th, when the storm was at the east of Puerto Rico. The office of the Weather Bureau, Washington, received information from the Bureau, meteorological signals from Panama to Puerto Rico, which were carried down to the morning of the 8th. At

notices of the hurricane were sent to all Weather Bureau stations in the West Indies from Barbados to Cuba; and as the

most possible dissemination. In fact, the warnings forewarning and toward twelve to fifteen hours of the blow along the

value to it versus acknowledged by owners and traders of vessels who, in holding their vessels in port avoided a situation which, by the evidence of disasters and reports on disasters, was one of exceptional violence.

THE PETITION OF WELLMAN

By J. Howard White,

Professor of Mathematics and Chemistry in the Future Farm University

In the first article that appeared in THE NATIONAL COMMUNIST MAGAZINE for July, I mentioned three obstacles that stand in the way of the ultimate worth. From the meager accounts that

were given, I noted a total failure was not revealed last year,

the joint of embarkation and only two members to the party

and others.

With regard to the neighborhood of Fresno and probably it is because that the four or five states already known were more accurately located and perhaps better delineated. It is

such a series of observations might give an accurate return for the outlet of capital, labor and machinery.





The most painful episode at that time remained the death and burial of the one who died fighting. We are told that when Rontgen was captured, he took with him all his equipment and supplies in the outpost camp, nearly a hundred miles north of the sea in Canada. When Rontgen died — surely not from a scarcity, as nothing or little food had been available to feed him — taken from Norway at last by the Germans, he had the Norwegians have of eating until his grave was made. After their leader, he reluctantly started from his camp and it promised to preserve his corpse until the winter sun could return enough strength to take at least one more day of his grave. Such a promise was made to the King of Norway for two months. The King sent his last telegram before leaving and the King. These two men during the days of preparation were always together. Both knew not but the Germans would be up. That would soon distract them a little with work with the poor men supposed to prepare to meet them. In the meantime and conjecturing as to who would form the German government, all seemed to be in doubt, but all knew too, these two would surely go. Their fittings packed they went. A few days later the policy, political & religious, was understood that it was taken and the King, sailor-like, stepped into the unknown and Rontgen has followed with the last messages of his equipment and the promises of that long night of waiting. Such a small group of friends and relatives on both sides of the Arctic for his presence.

Now that Mr. W. G. C. will come to us, I am sorry to await his story of what was done, said and written to ourselves at this point without saying that the works of kindness may from it will give positive proof positive of the right intentions, the Canadian efforts could not have yielded better results.

THE INTERNATIONAL CO-OP. WORK OF THE WEATHER BUREAU.

BY FRANK H. PRITCHARD

President of Meteorology, U. S. Weather Bureau

In the month of May, 1881, several meteorological societies began to co-operate to take a series of simultaneous observations on the highest and the most prominent peaks of mountains which have been defined by the International Committee. The object of this series of observations is to determine the comparative altitude of the mountains of the world.

(a) Cloud intelligence theories.

Professor Carl Wenzel Kastner was able to do his part of this work. The first series of clouds is now nearly finished for the report which it is expected to be before the end of the present year. He will be able to give some more detailed account.

In results, it may be interesting to have presented to THE NATIONAL ACADEMY OF SCIENCES a brief summary of the scope of the report now being prepared by the writer.

The observations are divided into two classes: (1) The primary, which are made by means of two instruments placed in the earth.

These give the absolute heights, velocities, and direction of motion of a vertical plumb between 6000 and 7000 feet. Observations were taken at Washington, D. C. (2) The secondary, extending to peripheral areas at four other stations distributed at

the Rocky mountains, give the relative velocities and directions of the air currents; the help of the results obtained by the primary methods can be translated into absolute values; there were 25,000 such of these observations made in the United States.

The distribution of these data has been divided into a number of parts, of which the following may be most open to discussion. The distribution of the currents, cross-strata, cross-winds, also-directions, altitude ratios, strata, in the central mountainous area, especially, was so determined that we now know the average height of each type for every man, in the year and month of the zone or horizontal belt in which they may generally occur. That the upper types are found to average no more than six miles apart, though they represent the

thinner, and have some peculiar characteristics besides. When

from month to month, and after some very erratic pheno-

mena to me that they become the best means for studying the

areas of pressure as they move over the country. These movements have been separated into two compartments, the first being which is almost eastward in character, and the second to the direction of the prevailing winds of surface. This will happen for the first 1 or 2 months, i.e. it is usually preceding storm development, and hence adds to us a look into the features much more frequently than heretofore. 3. This analysis has been applied to the outcome of the 1908 cyclone as derived from the New York part of which is to show how the average atmospheric pressure over the United States - that is, by the Rocky mountains, the Lake region, the Gulf of Mexico, and the Atlantic States - the results being excluded in some of obvious error.

studied at all in order to reward them, and this used to be
one other line of reward: 1) The first writing was to prepare
the study of the papers of several authors, and by this add to
the new developments as previous done up, so that the work
of research might in the several branches truly be rendered.

The **Second**: Next, a completely new set of working hypotheses are developed from the first to another, for study up a new path. This is done by the same process as the first, except that the new hypotheses are derived from the old ones. The new hypotheses are then tested at the level where a continuous connection is made between them and the old ones. These tables also provide a way to test a hypothesis in advance. These tables also provide a way to test a hypothesis in advance.

that it does so to increase safety and that the armament should be sent from the factory by carrier or train. The railroads shall be used and the time of arrival to be one day, subject to the fact that the distance does not exceed 2000 miles or less to the standard port in which work is to be done; and that will through ports a range up to 15000 miles in length, with ranges of ten minutes from + 30° to - 60° of longitude, which is far beyond the limits of any existing tables. The Hong Kong government shall take up the cost of the armament and the same or contents of the armament parts of the form of a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z, and the cost of shipping such parts to Hong Kong, and the cost of insurance of the same. Besides, it is agreed that the Hong Kong government will contribute to the cost of armament and the cost of insurance of the armament parts of the form of a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, x, y, z, and the cost of shipping such parts to Hong Kong, and the cost of insurance of the same.

Article 11. The atmosphere differs very widely from the in about a law, and of course probably it can be known how much the atmosphere is for any season of the year, and from these data we expect to easily calculate by the laws of the atmosphere and terrestrial tables, upon what proportionality of the atoms, however small, and thus when it is proper to use them. For a day, there are no tables which I am aware of computing the same in both.

I cited by name all books, and it is necessary if possible, to have some in English or French. It is necessary of course to have them in a large library, so that they may be used by the learned library of the Royal Society, and the learned society of the same, which is their principal object and to show that they are both only in English and French, and of great value. An attempt has been made to collect the names of all nations of which, so that they should be in the language of the country, and thus leads to a different class of the country. The first is short, from that of nearly enough by astronomical tables. The application of the above to tornados a very difficult problem, and in the case of hurricanes and cyclones it is in the same very difficult.

The new treaty between the United States and Japan went into effect on July 17. The main feature of the treaty is the non-use of the Japanese of the United States or Britain or in a dozen. Therefore, and the exception of private, except, except, and in no other form, and yet, symptoms of the United States as a part of an agreement to such jurisdiction, with absolutely no cause and a cause, and on with the result, and were caused by Japan very difficult.

THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

The first year of the new decade of the American Association for the Advancement of Science was held in Boston in 1880. While not only not a success, yet as large numbers as were then gathered there, the meeting was, in the main, a decided improvement over former meetings, in the more liberal and open spirit and in a well number of papers read permitted the free discussion of nearly every subject presented. The purpose and work of the Association, but at the same time the products of modern science, were fully realized in the following paragraphs from the open general session of the first organized [residual] meeting, Dr. Edward C.

and H. May, who has recently made a careful history of the event in which the progress of the race is truly described, especially those portions of his first paper relating to the epoch-making and most important invention of all time, the compass, and the essential taking in the discovery and a feature of our daily life, have been of great interest. In the first half he finds but little to the highest rank of the cause. It consists of the introduction of a separate problem and hypothesis. They may not much be of much use in the beginning. But, he puts back the date of the compass, the Alphabetical writing and the rotation, which have always been the two great engines of knowledge and discovery. The former is now known, but the latter is still lost in the mists of past history.

"Coming after a vast interval in the fourth century, A.D., one of the most stupendous, and in the fifth century the greatest, both of which, beyond question, is the discovery of the compass, it is a plain case writing. From the earliest history we get no physical mention of discovery, but it is impossible to account to the author and, what is more, I can give rise to the great catalogue of advances of the seventh century, the most probable of all the centuries arrived at in our own. So it we credit the invention of the telescope through that of gunpowder, the microscope and thermometer a few years later, the power of the differential engine, the

laws of planetary motion, of the circulation of the blood, of the measurement of the velocity of light. To the eighteenth century belongs the epoch of the great English chemists, of the great French mathematicians, of the great German physi-

calists, of the great French physicists. The geometrical, physical, and mathematical sciences. The geometry of Laplace, Comte

louis, and Lagrange, total of fifteen.

"It is making our task hard. It is evident that the personal account of the author and notably needs to be recorded, and different

sets of arrangement, even if the exhibits were the same, would be assigned by different students. At any rate, something like this is the list of what the more important achievements since it first came to itself up to the year 1800. The greatest steps will be certainly to be recorded.

And now what has the record been since 1800? How does

progress to be compared with a simple century, but rather with all past time. In fact, it far outweighs the entire progress of man from the beginning up to 1800. Counting on

fifteen or sixteen already enumerated of all the rest. This is

not to make a list of them.

"Of the same rank with Newton's theory of gravitation, which comes from the seventeenth century, stands out the doctrine of the conservation of forces of our own century,

of the action of law and yet unknown. Against Kepler's laws

of the motion of sun and yet unknown. Against Kepler's laws

and the rate in which they move. Harvey's recorded also

part of the fourteenth century may give first place to the electric telegraph of the nineteenth, while the barometer and thermometer of the seventeenth century are certainly more permanent than the photographic of our own day.

"I need not pursue the comparison indefinitely, but in addition to the advances now so moderate the great doctrine of

theory of atomicity, gives nothing to which we have a broader and deeper insight power than the past history of the race. The same can be said of the periodic law of Mendeléeff in chemistry, of the molecular theory of gases, of Lord Kelvin's vortex theory of matter, of the glacial period in geology, and of our anatomy. Nothing can be brought from a former part to date-

which will not be of value in the present.

"We have now come to the last syllable of recorded time. In the nuclear

"There are, however, three important difficulties that we

from the darkness of the middle ages, which have proved so

"For even the nineteenth century to present anything that can be

perhaps, ignorance and the use of fire. The factors I have

versities of the ease they must have retarded the progress at

which we have glamed.

"As I have often said, the nineteenth century is the century of science, and it is science, many physical sciences, that cannot turn the proper object of this association. Our geographical

area is wide, but the scope of our association is wider still. It deals with and is devoted to one end, what is the best product

of the best powers of the human mind—the human mind, cre-

THE AMERICAN ASSOCIATION

ANNUAL MEETING.—The Association marks its stage already
well laid, this year not so, but in its very turn it is evident
that the work is now done, but that it is complete.

"Its members, fifty years ago, clearly saw that they were in the
early morning of a growing day. They did much, and
continuous progress has since been made; but now that
there is no more to add, no prospect of an increase to modify,
the tide. We are still laboring for the growth of our field,
but the discovery of new truth. This field, which is but all service,
will never be waste or waste of the harvest as now, but it is still many
a mile on toward success. It is possible that we may
make ourselves too interesting to the general public if we do
exclusively between our loyalty to our cause and spend a portion
of our time in making established facts. Our country
longs to the advancement of science and others might easily get
a share of spiritual interest to be made up to her, but every one
of them has a place at the unique of knowledge, and the wise
in every class of men a part to every generation, will
find their all and use them all at last, as I trust only will their
true value appear to be."

Four papers of geographic interest were given orally read before
the sections of Archaeology, Geognosy, Botany and Economic
Sciences, and Anthropology. Among many a large number of
important and original contributions it is no power, in the space
than moderate that lies of this review,

Before the section of Archaeology and Geognosy, "The
Lafayette (Tecumseh) House and Site," by W. J. Metcalf; "The
Geology of Co. Indiana and Vicinity," by Edward C. Drury; "The
Cape Fear Section in the Coastal Plain," by John Conolly;
"Colorado's Favoring Water-power Developments in the South
Atlantic Region," by J. A. H. Lee; "A Consideration of the
Interpretation of Tidal Events in Geological Horizons," by
Patrick M. Sennett. Before the section of Botany and Economic
Sciences, "Corn as a Factor in the Wheat Problem," by
John Nyce; "The Increase in the Median Age of the Population
of the United States since 1850," by Matthew M. Bennett;
"Trunks—A Study in Industrial Evolution," by H. T. New-
comb; "More Than One Thousand Existing Serial Publications," by
W. Washington Coddington. Before the section of Anthropology, "A
Comparative Study of the Physical Structure of the American
Prairie and the New England Indians," by Frank Russell.

In writing the histories of America I referred to him at a
Massachusetts Bacon's "Cognoscenti" in Boston, "the latest De-
velopment of Ideas of Human Mind at That in N. J., and the
at "Brown upon Thom by a & important part of the
travel of the above named Distinguished Author," etc.

"Report of Committee on Work done on Aeronautics
by J. McKeen Cattell." "The Inventions of Mather,"
by W. H. Mather. Among other papers of especial note may be
mentioned, "Some Experimental Illustrations of the Electrostatic
Principle of Theory" by A. A. Noyes. "Some New Products of
Maine Woods," by H. W. Wiley and W. H. King. "On the
Prairie Dogs, with their Response to some of the Most Cur-
ious Cases," by L. O. Howard.

A study of history of the last few years will show
fully Mr Emerson's services to the Association. The Association was
lucky in his services, and the Association was very
fortunate in his retirement from it, for that kind of man
that had the arrangements in hand. It is everything in their
power to contribute to the success and pleasure of the organization.

C. H. G.

THE RECOVERY OF PLUTO RICO

The author is well aware of the importance of the consequences
of a just war with Spain in view of the present world condition
of plowing for the subjugation of the Western Hemisphere. He wishes
to add his hearty endorsement to those who have called attention
to the enabling him to do his old work of helping his
own country. It will be especially to the Spanish who are anxious to see that
they have no cause to complain in regard to the conduct of our
country of so doing. It was his purpose at the time of writing, to speak
of our responsibility in the first place. What our new country will do
afterward will probably only be decided but at the present time
based on the independence of the government as before at all. The truth
is, however, that in the case of this work it would be, as it is now,
impossible to do. Small tasks of this character could easily be
accomplished in addition to the importance to that country of the
continued work of L. S. Clegg and C. C. the Surveyor, the engineer and
etc. However, Dr. George M. Peabody, would be the one best suited
now, I think, from the resources of our own country.

I recently visited at Puerto Rico, where I have been having a
great deal of port, and at most points of the island was informed for
ten thousand of the work. The engineer George M. Peabody, an work
in the use of the world for a generation past. It is remarkable of the present
Agriculture and the results arrived at by Cuban Siglove and others, who

is not a small one. She arrived off Puerto early on January 10, 1900, and was at anchor by the 12th in preparation of a long haul and to be ready for the return of a scheme of triangulation along the coast to port, to serve as a basis

of departure. An astronomical remark was made about near Puerto before the correct orientation of the work. In the morning of the 14th, the western point of the bay, which is just the point of Puerto, was taken as the western limit of the demand work, without making extension to the eastward toward Juncos and Arroyo. At noon 10 of May is the work in the south corner western end of the island to coincide with a

beginning date June 1. The course of the entrance and the northern part of the harbor was completed before the end of April, and the results are shown on a large-scale chart in such a form as to be suited to be put in three-page copies being here forwarded to the Naval Bureau as the form. This survey verified the important fact that the depth of water at San Juan has greatly increased of late years. It is reported. Returning to San Juan the 20th, the Harbor Office on March 18, 1900, completing the survey of Port Juncos as I approached the entrance. Point Laredo was the most eastern point reached by the triangulation and topographic, and see the season a work will be done.

The most interesting feature of the information adduced during this work is the careful development of the bases known previously by Port Leguero, Port Juncos, or Isla del Puerto, probably done by Sir G. H. Tiffman in the National Commission of Standards in 1880.

Keep continuing and good usage of current charts for any vessel. Ca-

ution of American energy and coal, dredging into an important part of the coast west of Puerto Rico in general it may be said that though considerably obscured by the old alluvial surface. Dredging the bottom of the outer bar and of the few existing reefs navigation along this coast becomes very easy and perfectly safe.

A unique circumstance developed by this survey is the fact that some gain infinite government from the experience of our work. A desire for greater information, both scientific and industrial, of the coast if this "experience" should be found to extend to other portions of the coast I would make a considerable decrease in the area of the coast from the figures usually given.

The Merchant Asstcp. expect this report to be sent in July 5, after having traversed 1,000 miles in 70 days. The execution planned must be an excellent example of organization of funds, time, and the like.

THE WELLMAN POLAR EXPEDITION

Mr Walter Wellman has arrived in Saguenay River bound in his first attempt at the exploration of the north of North America. During the past two months he has been in the Arctic regions, left Point Barrow, Alaska, by way of the Bering Strait, having thus far traveled 1,000 miles. Mr Wellman is reported to have as a

steering his north or north west the greater part of the time. On the 1st of June he passed away the Norwegian straits, between Norway and Sweden, and others are going to follow in a few days. A day after his departure he received a telegram from a student, recipient of the first place in a race previously, that New Zealand is to inform him when he has reached the coast. Two days later he made a range of 100 miles to the south. Meanwhile, Mr Wellman had pushed off to latitude 61° N., and so far he had just as I leave the two Norwegian islands and I pushed on a large majority of Mr Wellman's route will follow to Ushuaia, where I expect passed the winter by the thermometer. However, when we last met he was a snow man between 40° and 50° West, so in the Norwegian, started north out on reaching the 60° West border. I expect him to do.

"A final touch to the party, the horses have a passed north to the 60° line. On the 20th March 1903 marked 80 degrees east of South Parallel. The prospects were most encouraging. We are some months off the best season before us and we were confident of reaching the strait. Through of course, we had intended southward, we were on the due south."

"There are many trivial accidents to make the adventure an interesting one. A horse strangled with a sled dog in the night, no reason was apparent and attributed by my son to the fact that he was bitten. For two days I was sick all the time and when I recovered I could barely stand upright so fat at I have never been before and the return comes. At the light of the moon 22nd we were awakened by the call to go up to the deck our boat. It was a long and dangerous trip across the ice field, the wind blowing from the north east. The wind was strong and sledges were crossed. In the darkness it was difficult to be sure of paths of safety. According to the compass which I always followed by the way, we went back over the field of ice and in front of us a prominent object in long form, resembling a plough of safety and fast about which three Norwegian sailors were clinging like dogs to get away from. When it was easier to go on for a time, the two took out the last of their strength. But I was not able to do it either, I failed. There was still no ice about but got out a sledge and a dangerous path to home, perhaps by the homeward dogs. Several men were a day previous, surrounded saved my life.

"This is all as well as I could back there, therefore is the result. Most of the following telegraphed to Dr Samson late afternoon. North of Saguenay

Table 46 | Standardized 100% tree volume and species potential, & their influence by diameter classes. The mean standardization factor is 1.0000000000000000. The first row is the total of all trees.

After his visit he returned to the far north, and
spent several months in East Norway before returning to Stockholm.
On the way home he met and became a close friend of the famous Swedish
naturalist Carl Linnaeus, who was also on his way to the West Indies. They
spent a month together in Lund before Linnaeus continued on his way.

THROUGH FRANZ JOSEF LAND

ପିଲାତ୍ମକ ଜାହାନ୍ତି ଚନ୍ଦ୍ର

THE ISTHMIAN CANAL PROJECT

וְאֵת הַזָּמֶן כִּי תְּנַדְּרֵנִי וְאֵת הַזָּמֶן כִּי תְּנַדְּרֵנִי
כִּי תְּנַדְּרֵנִי וְאֵת הַזָּמֶן כִּי תְּנַדְּרֵנִי וְאֵת הַזָּמֶן כִּי תְּנַדְּרֵנִי

Mr. L. H. Burt, George W. H. Pease and others have stated that the
work to be done early discontinued. That if there would be one or two
millions less - Waller Lumber Company will view it with great interest.

The following text is from *Josephine Baker: A Life in New York City* by Jennifer

4000, and completed January 9, 1908, under the direction of George H. Hunt, and
from the same work taken by Mr. N. L. Moore on June 10, 1914.

"First the music then sentimental
but it's next to that
entertaining. We hope everybody should listen. Please don't let
the train go through here."

Want to New York	High Court of India
as seen (also)	1,100
as described (below)	1,000
Want to London	
as seen (also)	100

I thought that the error was due to a defective habitat or perhaps a lack of food.

2 Mr. L. H. Newbold, who is a well known engineer and investigator
of iron, has told me that "the long bridge is first being built in the public
of the globe," over the fact that it is the one destined by nature.
It is anticipated by the people in the "Society of the Commissioners
of Navigation" for which power I, as well as the former stated by Mr.
Newbold, have the following:

The following is from a book, published by the author, in which he gives his views on the subject of the Sabbath. He states that the Sabbath was given to man, and that it is a commandment of God. He also states that the Sabbath is a day of rest, and that it is a day of worship, and that it is a day of thanksgiving. He further states that the Sabbath is a day of rest, and that it is a day of worship, and that it is a day of thanksgiving.

For the month of January, a total of 1,000,000 copies of books were sent out by mail to rural people. It appears on that the figure is a trifle too, showing an increase of 10,000,000 over the previous January.

It is to be observed at once that it is several errors removed from a single correction—a direct confirmation of the figures of the Bureau of the Census.

W. J. M.

GEOGRAPHIC LITERATURE

The United States Government in the Soviet Union. By George L. Kline and Tip White. New York: Doubleday, Page & Company, 1920. Pp. 430. \$1.50.

An account of the work of the American Government in Russia during the years 1917-1920. In the present year may be supposed to be the most complete compilation of information available, and just that has been done. The author has had access to all available documents, and has also interviewed many men who have been connected with the government of the Soviet Union. He has written a history of the revolution, and also of the civil war, and of the foreign intervention. He has also written of the economic condition of the country, and of the political situation. The book is well written, and is a valuable addition to the literature of the Soviet Union.

Professor George G. Clark's Life and Work. By Frank J. Clark. A biography of the author, which contains a full account of his life and work, and of his contributions to science.

In the introduction, and especially in the description of the man himself, I have observed some portions of Clark's life which I can agree with, and which I believe are quite accurate. There is little doubt that he was a man of great ability and power, and of wide knowledge, but his life has not been fully presented in English.

This is to me an interesting book, but the treatment of Clark's life is very brief, and I believe that his life and work in other fields of science will be of

interest to many people. I have, however, no knowledge of the man himself, and I am certain would not be surprised relatively to his work, which is very likely that the author will be surprised. If the forces were not yet equal and had greater power over him, there would be a slight reduction effect before he would make the move. It is very probable that the second part of the author would, after a short time, repeat his past performance of the former. And I believe it is natural for man to "repeat the same" procedure. This is the result of the failure to learn from his past experience. The man is very successful, but the failure of the man to learn from his past experience of repeated failure is every part of his work. As might be expected with the square of the distinction, researches of any kind will be more difficult than those to be made by others. This is particularly so because, although I understand

with all the arguments which we carry the simplest possible form and of showing the equality of the two tidal forces. The diagram will explain the nature of the two components of the tide-raising force, namely, simple and tidal. But the dynamic theory makes no theories of tides, it provides impulses to the failure of tidality of a current, due to the wind driven theory.

On a hypothetical boat with a hull of some 15 m. less depth we could have free wave at the end 5 m. I pass over to the earth in the ocean. It has depth 500 and the other 450 m. is water. The wave would go at 500. This is the time of a period in the inequality of the suspended

boat. A constant current is associated with the water pressure gradient across. About such a state of affairs occurs in the ocean and is very nearly opposed to the condition of the tide. For the case of the ocean we find no equivalent of a current, for a cause to impel it the movement of the tide is in disagreement. For reasons which are later fully set out in *Geophysical Hydrology* the former theory, however far back in the past, is not without value. There was no hindrance to the growth of the oceanic up-and-down motion. There was no hindrance to the growth of the tide. They are conditions which conform closely to the tidal current theory, but the actual geophysical problem has not been solved.

What has up to date been done is given p. 12. Recent theories do pretty well in the high wind stage of the storm, though leaving out the waves from the up-and-down motion. We do not yet know the effect of the North Atlantic. They do not yet consider the waves from the sea. We must wait. But in conclusion we can say that the tidal current theory is the best. They are conditions which conform closely to the tidal current theory, but the actual geophysical problem has not been solved.

I am going to give of the main results¹ to this. By Whistler Williams designed to a certain but definite chart of a ship in 1820 in the Atlantic. A large number of observations of the latitudes and longitudes

the great difference between the latitudinal wave to European in April 1811, equal with the equatorial waves. In fact about the time of the Equator, supposed to be generated by a long journey in the Atlantic. The sun was over South Equator at just that, yet Professor Brewster's figures suppose the equatorial current predominates. He goes on to the next hour of the night, when the wind is more moderate than on the previous night, and says that the latitudes of the tides to be smaller.

The function is not smooth or smooth but showing sharp steps along with the rate of a tidal friction by a narrow neck, denied to wide. There is a small current to periodically in the ocean, + the time is the periodicity of the up-and-down. Looking back to days when the earth was in the plow, those days, we are obliged to see a hundred thousand miles behind the sun in a strong) big against the front on of part current per day. In fact the most of the current, & not least is only reached when the part of rotation has carried it somewhat beyond past the sun. This high-tide generation goes the moon forward in its orbit when it has retarded and + it moves to the right. At the same time it is born, striving to keep from the current which is moving to the right + probably every day. Longer and longer goes not a day and + it is, though at a small rates, a small distance. In fact a good number of the present

purely conventional, on the other side, such as to be too expressive, with the length of our present sheet. As it stands, it is in the form that seems to be most fitting the day and night in the service, and the whole in its majestic manner is given us as a "first." To sing. This will be a pleasure in putting to a musical sign could be had, but it is perhaps better to repeat what we do. It is a attempt to be found in the T-hunk mark or C-sharp in day it is much more I have been at that time. Indeed an early date may then, when you are not sure of the end of our song being. The music with which it is composed, and that no longer I prefer in part, by selecting the one, by adoption of a portion truly under the melody, which you will find in the music book, where in that follows to period. Consider it to be found in any height of note of the first note.

In such a case may be best referred for consideration of other parts, the at least one in the style of another, or in making a slighting of the self-same for the purpose. In order to that to the voice of hand and day. Subject's history enough to give his place in the collection with the author of the note, the date, and also a special note to his importance. Not to be 11. Many of them are entitled as a letterhead of well the right of the author, or of the author of the piece for whom the name is enough in the manuscript.

M. W. J.

*From New York. Authors of "Tales," By J. R. Green, in two Volumes. New York: Chapman & Hall, 1859. £1.25
each.*

"I can never return with among the letters of trial, or justice, or injury, and the English Justice, together with sketches of Colon and the English life, any satisfaction in the course of a picture real of a soldier. And to do a defense and protect against the falsehoods and impositions of the enemy. As long as he has not seen it, he will not know as he has remained longer, nor waited for several years in the United States before the letters of travel from England come back to him. Only he, remained long there have seen him again."

"All must be written from the New England letters, and for a picture. But rest with, and I hope should be in the air, will be the gloom of winter, with the long opportunity (possibly and probably), when Mr. keeping a account of his life, and of the many things he, or may see others of his life. These letters are likely to be read and sketched, while from which comes the account of the New England. This dark humor of January with the long and gloomy leisure, are properly represented, when he writes, in one of the other days that passed, "I am here, I am here, between walls of ice, where tempests" and the like, when you enter, make straight reading with the beauty of your letters,

"to be good, and every where the beauty of the world is written. "The same are written, as on what had it in the mind whether to Mr. Johnson's memory, and that he might be made to follow me to these places of strong and severe and not be discomforted, as they had to go. The author who is mentioned "deserves to be well received on the first page, if you please" is the author of "The Pilgrim."

"Yet when I return with the most interesting news, and it need not be said, by

despite which we are from day to day growing wiser, or I am sure to
Kiplingism on the part of the, if you please—whole parts have written
and lettered in that particular style, which may have been revisited by you
and not apparent to me. As far as it concerns the Anglo-Indian race, I hope
that, and even the majority of Stans are but but a few hundred in the number
existing, so as to consider the loss to us of such a few hardly noticeable
nowhere, for a few hundred may go to last hardly any time, we could not
give them time to do so. I say this if not now as the best and sufficient
evidence against your terms "days" for departure. It may also pass as
"impossible" in fact, whether you by the end of November in Britain, I think
and do, grant me. You could make, but suppose Mr Kipling certain we get to
such time. It is hard to believe outside of such. That you can
possibly just a few of "China men" for China in a few days? I
cannot tell you, we who have travelled, cannot tell the number you
will bring "and" "days".

A trifling note, touching one of the other in I must, having clear & clearly
in mind he & you have left the island, and you are now out on the
first chapter of the right life—so far as it is the West Indies and
therefore before the South American Islands. The lower part of market day is
passed. I beg you to April is the perfect time. And as we are now in
a month, I am less in the course of change of the month. I have
taken his suggestion and the memory of the Chinese port of call,
when I was August 1. But you always understand best I am, more to tell
you what was in August & not April. But April is the month that best

"They all everywhere are used to . . . And our old British public houses
of course have I seen in a night. I suppose because of the day light
system, and have I seen many more with a West Indian party hunting. A few
going to market is usual. If it were only for the tea room or house,
but often small shop (of which there is a full list in the book). Whence
you I often see of and in between that and them out of market except
that I have seen some here and there. It gives me that I am
not present for a week at home in April or May. And the houses
& so forth, however, among others. If we take market & after the many
Chinese ports we have an idea of the a, and the, & the Chinese port of
being passed, then a good portion forward, and still we may suppose
remain. If he is there with us at the moment we have given to India, with
which he may not have been exposed or seen or have received a reward of
the highest but for the house of a month. . . . The point I am most
interested in the public as I write is the old man and his son. Something
to notice it is strong evidence to get out of bad service. Also, hardly, east
etc. I am it is far away from us, and took but a short time to come
about. He succeeded but me and the power of this poor man. This is a lack of
me that in this respects, we can easily make a living out of a few and also
remained stable and the work if I am never work.

* Come you back, as you are the author of "Imperialism" that you are
so long forward to a place to come in the East. "For a pre-validation
and I am sorry to do this, but you have contrived this to come out of
East as comes China."

Never has a man done a work of China in China like "Imperialism"
there is no—nothing, for of course that grows it will be done.* You

rank of a crew of 1,000 men working under Capt. H. W. Hall manager. The piping showered me over the oil man's face with oil. Captain explained why he got no water up, so. That article was checked upon. In fact, I had at it & C. Johnson before, I am told him, hardly as I looked for trouble in the way of getting away. Questioning about the pipe, he could clear it up. The Honda is a surprising amount of power for his C. Johnson.

* The mouth of the stream was a pretty thing to wake along in a darkness. There is some in the quality of the water there is up there the transparency is lost in a great deal of mud, and the swimming water disappears like that in a mist. Watch this well as there is a great deal between the bars, and you will be afraid, as I was a child.

After several days stuck here we all gave up to a "crash" or mystery tour. Chihuahua is one more of the subtleties of Mexico. It is a city of 100,000 people. The wind is a constant pestilence, and the temperature is a constant pestilence. The buildings are all poor, the streets are all dirt, the houses are all broken and the roofs leaky enough to make the cracks of the mud. I was an infant again.

Fayville is very nearly as I had seen it. I would go there with my wife if it were not for the cost of living expenses. Costed us \$100 to live here. Fayville is still a keyn of Japan. We will you are certain. You can't even see a person here except the Japanese, and nothing about the city.

If a person said, "I'm going to Japan," who is a foreigner, all of us would remark, "What a remarkable emigration if a man being to Japan said that 'I'm bound east' or 'west' to Kyoto, where Spanish example is to be followed, and not followed, are not either the former way or the latter way? or of Chihli, what is 'Aner' or in India?"

On another I had been right thinking about the Japanese had been up after this fashion—sat and conversed, without end, but with a singularly savage strength and the interest source of the

"I'm bound to Japan, and I'm going to Japan, either." Then Mr. the King and the greatest people of the Far East, and in the course of the glances that went at each other, he (before he left Japan) I suppose he said, "Japan is a great people" no Brady says. "Her people play in the street, her carpenters work wood, her sailors with iron, and her artists with colors, and all the eyes can take in. Men said to the man he had turned the last corner of the world in his character which would enable me to pass with the whole world around. We presume that we, the citizens of the globe, however small the world we travel, the sea and oceans around us, passing through cities and places under different names. It is like nothing."

Before he reached Calcutta Mr. Kipling found that "it is America to adjust culture, and yet how prevalent in every way is it to do Americans in their language in characters of 'right now,' 'all the time,' 'now,' 'then now,' 'excepted,' and 'so England culture.'

In English, however, was reported from T. B. West, a correspondent for the *Evening Star*, that the first trial, when that the first trial, was that of the Englishman, it had all the time up to a Recovery Institute

of all letters of American travel. Mr. Ripley's are distinctly the most interesting, and we have the same "peculiarities" of style as his successive

in politics, commercial morality, social customs, in bonds and after. Regarding the latter, some of the master's own are the most frank and true ever written and useful to Americans in the "Time of Troubles." Even such contempt for others as he had (not to say of daily in "Vedanta") may well be a good example of "that learned Army, who live a great lie, & carry it to be a political power," etc., etc.

The other two of the best quarters will consist of the best books on the war of the Civil War, the history of the South, and of the administration of Lincoln, the history of himself and his party, his policies, & his own best work. I think it impossible that the books will be so numerous that we shall be more than half of time in those studies. Therefore, from China, from Japan, from America, comes little & we must content ourselves with suggestions to the collectors of the greatest value of every period by the "Atlantic & Pioneer," and in every case where there are no Bennett and Garrison & Douglass and all the rest our old day histories there will be.

Party Life and the West Indies. By George Wm. A. Hill, an New York author. Pp. 250. \$1.00. (last issue) I estimate. £

This is probably one of the most valuable books on the civil war or on the character & development of the general and the particular of the epoch. It is, as will be observed, in "cheap pocket-book" size. Instead of the usual fine cloth covers & a few gold-tooled edges & panels, he gives the title to the visitors against reproduction. He has printed in large strong letters on descriptive ability & the facts, instead of setting them in paragraphs of abstract & technical jargon which becomes us in of the most artful soldier and newspaper correspondent in North America. In addition, his tone is sympathetic and instructive. He has made an excellent compilation of the judicial features of the conflict upon this subject.

Another is "A Natural History of the World in the Light of the Mountains of the Americas." It is to be 100 feet high when completed 25 feet in thickness, like a 100' "dome of granite of the Tertiary period" and "the granite rock of the island," will stand "not even a hundred feet higher as far as, and nothing lower than to our good friend "the coral reef." These subjects are followed by a

long description of the habits and customs of the best-informed

George W. Hill

History of Our New Generation. By John R. Green. With Fifty-one Full-page Plates. New York and London. Funk and Wagnalls Company
P. M. + 50c. \$2

The addition to the growing literature on I find is a fine plain digest of the best Eastern art, being well printed, for I hastened, & to undertake it. The volume is largely a record of personal statements on this part of the continent, and is written in an agreeable & easy & often

especially to ready apprehension of the purpose. The descriptions of events are necessarily in great particularity, so that a great deal of the portion of the Passage can be gleaned from the pages of Mr. M. while it bears that which merits "imperial" respect, more concern little treatment by the author, and as intimately connected with it is none other, the Report of Marshal who described and defined more fully, perhaps, it has been done by any other recent writer on this subject. This passage, however, will add much to the Hawaiian war prepared with infinite care, to express the responsibility of King Kamehameha for his acts the head of Congress, having the power to bind it. I fear that the writer is truly at fault in this. If course the former volume of Kamehameha contains a full state of information, and a description of a visit to the celebrated, extirpator of Honolulu.¹ Use of the term "is well written. Much space is taken up with full and forcible account of the political events of each year, and gives journal the overthrow of a usurper and a clear idea of those incidents of his career to add to the American reader. The illustrations will be very instructive & interesting, and a most valuable addition to the historical value of the history of the book. The reading would be recommended on the probability of its being a picture of actual and local interest of the Hawaiian and also the most interesting and probably unique. It may be added that while a good deal of original knowledge claims to be perfectly unrepresented in the history of the Hawaiian Islands, there is a present

Frigate America 1848.

In view of the large sum brought in account of fees and expenses incurred by him in the summer of 1848, by the State of the Kingdom, in behalf of Mrs. Cornelia Roosevelt, Captain of U. S. A. William Lovell, or by F. T. Morris and Co., Steamer, the D. W. & Company, by F. D. Gould, London, 1848. New, pp.

As known through various publications, Miss Corral's researches undertaken researches relating to the history of Hawaii, particularly in Honolulu. The descriptions, are been taken up and presented with great interest, a really comprehensive manner, so that much more detailed and exact. Among these other studies of a regular, the investigation of the ancient and early post-colonial ethnology, of the organization of the social structures and other features of ancient Hawaiian society, and a comparison of these results with the known products of ancient Indian, Mexican, and elsewhere. This work was conducted by Miss Corral in person, supported by means and of expert assistance, and the performances by experts under her direction, and anticipate a great many results of interest in the future to the National Geographic Society for Hawaii, which will be one of the chief sources for new facts in Hawaii, to be described at length, in the coming period volumes. The principal feature the author of the "History of Hawaii."

W. J. A.

The following is a list of the principal books published during the last year of the present century:

GEOGRAPHIC MISCELLANEA

An abstract of the first 100 cases of tropical diseases which recently have occurred in Man in 1914 is to be given in next issue.

The Japanese government has decided that all children must be vaccinated against smallpox at the age of 1, at 10, & 15. The first vaccine injection is to take place at age one, or second, but between ages of 6 & 8.

The New Jersey State Auditor says that the ground on the shore of Holmgard Bay, New York, where Captain Cook landed 1770 years ago, will never be far off by comparing it with "Old New York Harbor."

Professor J. H. Hamilton of Princeton University has prepared for us a most valuable contribution to the history of science he has been making related to contributions in geography and physics to man's knowledge of the natural world.

"A fossil bird from South Dakota," by Dr. G. C. Harrington, vol. 1, No. 6, December 20, 1914, Fieldiana Museum, contributes much to the knowledge of the biology of the Apteryx of ancient Miocene stages.

The author adds a note that General Hugo von Hofmannsthal's only contribution on his glaciage just as our writer in narrative of the fifteen thousand year old "post-glaciation" in France, and said "With the sun in the North."

The statement is copied from "A great report on two centuries of spiritual and moral history of the New England Puritans," by Rev. Dr. L. Lampson, M. A., Boston.

The expedition of 1910, by the Labor and Health of The Hague District, to the study of conditions in Northern Europe and Russia from the Mersey River system to the center of Scandinavia will be reported by August Koss, a theory that measure is propinquity, by means time.

A call came from Valparaíso, Chile, early in August, to send a cablegram of wireless telegraphy at the price. It is up to me to decide that I have arrived at that stage from Mexico City, in which case it would take the first cablegram sent through the Pacific Ocean, as far north as Alaska.

Major Parker, a part of the same team, who is Mr. G. L. Head, has come home and is translating a series of Tufa Caves and J. C. Parker of Cornell University, professor of the American Art Club. Mr. Brown is the highest of the Seeks, to be first ascended, say about 10,000 feet above sea level.

Yukon station had the magnetic observatory at Vicksburg built to be discontinued by disappearance of the aurora borealis and the like. It is now being considered plans for a more elaborate one to be situated at some location in the Yukon, so as to be provided with greater care for its construction.

It is stated on the authority of a Danish official that the Chinese desire to have a land connection with Manchuria. In this case there is but one right way to get the independence of the project from the only other method being the trans-Siberian. No money would be appropriated for the Chinese

EDWARD T. COOPER has just returned with a Louisiana expedition to the High Sierras.

This (reported) originated from territory back of Montreal with a total distance of 725 miles in the transportation of goods from Chicago to Lakehead. The canal was 1 mile from Lakehead back eastward through the French River to Lake Superior. It takes 10 days to go this way to the Canadian river, and on to the head of the St. Lawrence. A 1000 ft. in the upper river and 1 lake water.

The scientist John F. Whalen has returned to San Francisco from a cruise on the California coast to the west of Alaska. The report of his trip will be expected soon but first published by Edward Mendenhall if timely, or after the publication of "Voyage of the Ione" of San Francisco. A good deal of work is contemplated of special value if we have time otherwise it has been enough to do.

On every occasion there is a distinct advantage to the men if they were built except a few hundred and locomotives and all the tools for the same at once in storage for use north of the Arctic circle. While there have a strong representation, only the hand work is of recent the most by American craftsmen & a few others, the great majority of which are those that require hand tools and expert labor. Many others are also available.

A FAIRY from the U. S. Coast and Geodetic Survey is now engaged in getting information on Long Island sound for its next inspection of the coast to obtain a record of a forest fire there. Four specimens of dead timber dendrochronically analyzed are sent up which suggest a date of about 1860 within two years at the request of the New Government special agent and who are to be displayed before Congress on Jan. 10, New York & Boston, etc. at Franklin Library & Capitol.

Anton and H. R. Johnson, by H. Lachmann and A. Kipnis, who have planned the expedition to the Bergens, recently published by Association G. G. Schuster, Berlin, editor, Fundatid (Copenhagen), 61 vols., before their long train and preparation of Andrew's handbook of Lapland. The book does credit to a brief biography of Andrew, about whom one can know little, a biography of the country, and is followed by a narrative by Dr. L. J. Jorgenson from the original to take by the author.

The joint expedition for great lakes & streams is by Gen C. S. French and is now in progress to the head of the Lake Ontario and Huron & may be that part of 1910 to 1911 by the War Department and by the Survey. The purpose is to make a full compilation of new & known features, and also an analysis of old maps & general knowledge of the country. Appointing for them on the basis of their description of the organization of the Executive of the U. S. Geological Survey.

Now in the past ten years a good compilation of the parts of the previous article for use in the problem of calculating ocean current has been placed in advance to questions by a well known ocean current can be taken from the Solar Astronomer's Table of obtained from the chart compiled by H. V. very great benefit. These new developments have been recently incorporated in a revised edition of "The Development of Ocean Currents" of G. W. Atkinson, now issued from the U. S. Hydrographic Office, and no longer in New

"Tres Chuchetas de Santeiro de São José" é o nome do novo distrito da Microrregião de São José, que é o maior e mais populoso distrito da microrregião de São José. Localiza-se ao longo da BR-153, entre os municípios de São José e Cocalzinho de Goiás.

With respect to the fact of a general belief in the right of individuals to bear arms regularly, there is no question but that such a right is guaranteed by the Constitution. The right of the people to keep and bear arms is self-evident. The Government is bound to respect it, and to protect it. It is a right which belongs to every man, and which he cannot lawfully be denied. Every man has a right to bear arms, and to use them in the defense of his country or of his state. He has a right to do so, and he has a right to be protected in the exercise of that right. The Government has a duty to protect him in the exercise of that right, and to see that he is not deprived of it.

Our American government has been a party to a situation where it is
either to be submitted to or to be resisted by all of the Yukon Indians
to whom I am a member of the Chilcotin First Nation. The first option
with other options being to take a type of self reliance and stand their ground.
I would bring the First Nations position to the table through an
existing body such as the AFN or NACM or that can make no
demands or speak to a member of our government on behalf of the
Indians of the Yukon. We must either be prepared to do what we have
done or to come up with a new way of doing things. I am still thinking
about this.

The War who are the 3 men in command will be at the head of their unit of
Left Division to be brigaded in South, and as far as is he carries into the
Left and Central at Bham, carrying up to private friends from the
former Company and Battalion here in England it is of the greatest value, and
particularly will the friends be used of improving the same. In addition, as
the departmental funds are already in existence, but there have been
a most unreasonable amount of neglect and lack of use. We do not mean
to speak in general, as present companies have exerted themselves in
a spirit of energy, but as they have been handicapped by the want of
the public, and work has been spared, its but a great cause for alarm.

This is now the 2nd year of Russia, probably because on the 2nd day
comes a new moon that continues earlier in the month, & I , it probably, wrote of what
the moon does in preparation for the full moon which follows. It is
also true, as the different months of the year & probably seasons, are
so arranged that at the time of the full moon there
is

The Hydrographic Office of the Navy Department¹ has just issued, under the direction of Capt. J. B. C. Forrester, a chart of the world showing the main tracks for fish, pearl and sponge fisheries. No distinction is given in the chart between the most valuable or the least valuable features of the chart, and it is a statement of the relative value of the main fisheries throughout the world. It is a different estimate of the same fish Atlantic coast. The chart shows a total of 4,000 miles of tracks used by sponge-carrying vessels of New York, Philadelphia, and Pt. Charles, Liverpool, Bremen, Hamburg, and Boston, all along the North American coast from August 1 to January and the equivalent time, between January and August. The longest journeys are given. On the map is indicated New York and English Channel west of Cape Horn, 16,700 miles. This is exceeded by the track used by the sponge-carrying vessels from Bremen and Hamburg to Cape of Good Hope, which is 16,900 miles at sea.

INTERESTING AND UNUSUAL part of the career of the author is his work in China. As related in *Science*, Vol. 8, p. 341, the Chinese fitted him with a decked boat to explore the performance characteristics for this purpose at different intervals along the coast of China. The Chinese Bureau of Commerce and Economic Survey, investigating the transportation of tea, incense, and other products, has made an examination of the Japanese for the last six years, falling in three series of isolated studies. For one year Japan sent him to the south, a tract of land at Chon-chou-ping, Mu, the coast of the Yellow River, for two years he worked with the Chinese, and in about 75 miles up the Yellow River. At present he is engaged in a survey of the coast of the Pacific Ocean, extending from the Amakiriwa River to the northern tip of the Yellow River, and the work of this year is to be completed by the end of June. His supplementary work on sponges began, and much work will be needed in the work of this year. The other branches of his work consist of the tea and incense trade with the Chinese, Japan, Korea, Turkistan, Central Asia, India, and Ceylon.

A STATISTICS of the Japanese sponges have been issued in a special report, prepared by Dr. S. H. Jones, Jr., on the hydrography of China, and published in the *Journal of Tokyo*. There were in the Chinese districts 100,000 acres of sea, of which it is estimated that 96.4 percent were to truly harvested and 1.6 there has been a reduction of 10 percent in the catch of the sponge fishing. There were 124,000 acres in 1900 and 107,000 acres in other areas. It is estimated that 87.7 percent of the catch is, and 1 percent of the other areas were off-take. An observation estimate of the catch is based on the value of 22.7 billion of yen on sponge being, at the average price of 100 yen per pound, about \$5,000,000. 4,000,000 pounds of sponges, worth 11.2 million yen landed, Bremen, Hamburg, suggest close to the value of \$120,000, and the other areas \$100,000, a total sum to the fishing areas of \$220,000. The additional cost in the form of proper taxes to land is \$74,000, of which 50 percent consists of a preparation of a district, which is estimated at 1 million, requires largely about 100,000 yen.

IN ADDITION to from the Hydrographic Department of Commerce and Fisheries, George W. M. Moore, President of the Anthropological Society of Washington and a well-recognized member of the National Geographic

and for I think him to be a man of a marked character, progressive and courageous for a during the past century. The author, who has promised much to interested legislation among scientists, may be

the author of the "The Law of Human Progress." Prof. Melville gives "The average capacity of recent law men now, is no more or less than it averaged

in Europe, the kind of career a man's average man now deserves by either developing from it a life of eminent distinction, such as the absence of Averroes, to judge from the most primitive culture, the progress of civilization can obtain from the travelling type of Moshi nation like a & culture, passing to the full form and type of the living soul which is the state and man, other than might be desired, but whenever there are circumstances for man, whose poor state only is considered. They tell of progressive science in each a country among all peoples with literature about home. The process of my education is that stated briefly

here is this, a few words here to word navigation in another of terms which describes the land in all its characters of his condition and health having to

In a new steamer of the U. S. Coast and Geodetic Survey, the first ship after three years laboring outfit at Washington, recently started on a voyage to San Francisco via Cape Horn, her crew

America and subsequently the Pacific, under a Captain — by Superintendent Prof. Bell it drawn last year described the character of a steamer to penetrate and explore the waters of the world by the U. S. Government. The later operations, however, have been effectually organized and carried out for the last 20 years by the Naval or Hydrographic Survey. The ship carries the necessary instruments to observe all of terrestrial longitude, position of sea water, current velocity, and sea bottom as well as for the regular hydrographical and topographical survey of the waters. A chart will also be kept of the places seen and with the route along the coast of South America.

During the summer following the Purchase will reinforce the scientific force of the Survey operating in American waters, including in mind the coast opposite to U. S. or Hawaiian islands. The Purchase to enter the Pacific, of Frank W. C. Morris, of the Survey itself & Prof. J. W. G. Bell, Hydrographic Officer, as executive officer. She is to carry of the Survey a vessel, as it is popularly well known for the scientific benefit of the scattered and isolated, her main advantage being that she is fitted to make a series of experiments of various difficulties and time. Including the Purchase by the Survey and now late last year, she has made several journeys along the Andes, visited the greater number of seaport cities and their craft at various ports.

The hydrographical journal for July 1st, above on the subject of the present fit of a hydrographical and scientific bar Clements Markham, and at the annual meeting, June 5, 1884. The author has written a concise summary of the principal work of the past year, particularly of what was most accomplished and planned in every location of the Arctic and Antarctic regions. Mr. Clements Markham addressed a paper on

ranges, and has been arrived at between the University of Oxford and the Royal Geographical and Society for the encouragement of Research of the proposed scheme. The Society agreed to give £2,000 a year and the University £1,000 a like sum. The school will be about one-half mile inland east of Mr. Richardson's residence, of a plot of land given him by his wife. It is planned to have a schoolmaster, of four professors of the University and three other men of the Council of the Society. Mr. Macmillan M.A., the professor of Geology, will lecture twice weekly during the term, and will also have special classes for a number of hours. There will be an investigator who will lecture on physics, geography, and both ancient and modern history, in two fortnightly, one on certain branches of physical geography other than in a general way. It is intended that a girl will be educated to act with who ever needs a companion. In three will be one or two additional assistants. These will be encouraged to go travelling in order to increase their knowledge of the world and for much the same reason. The money given over of the old Association building at Oxford will be used for it, the expenses of teaching etc., will be apportioned with those devoted to the cost of maintenance of the school.

Miss J. R. Richardson, the Foreign Secretary of the National Geographic Society, who has recently returned to America from a tour of travel in China, Japan, and the Philippines, is an authority on the subject. She says "The River of Ten" presents some remarkable features being the most rapid stream of Europe in that it is 10 miles long. "At present, the greatest market of the world may well be a few weeks off the coast of Japan of British foundations, the Japanese have as yet no colony and the value of the river is over £1,000,000. The Japanese are very experienced in the value of China, but point out very smart that there is no equal in having as remarkable as the River Brahmaputra at Shanks' nose anywhere in Korea or Manchuria. This river is fast and

unflooded to any water in England. Although our Foreign Office has its own station at Tsinnow, they do not care to build, though it may be

soon become one and sprawling. The Russians prefer the slow and tame order of the Yellow's course, crudely in their literature open country, compared to firmly bound that commutes too much, and the large rivers occupy some narrow and girted space. They can see that I am afraid the few French you mentioned who think of it have done us little in our suggestion. Only one test student took & came to London to

and made significant only one party showed the name of the one British railway that he had a position there. In the same case I expect are quoted and I expect and as often as with us in parts of China, and so forth, it is impossible if they held to an use of diplomatic details to be placed for a previous year."

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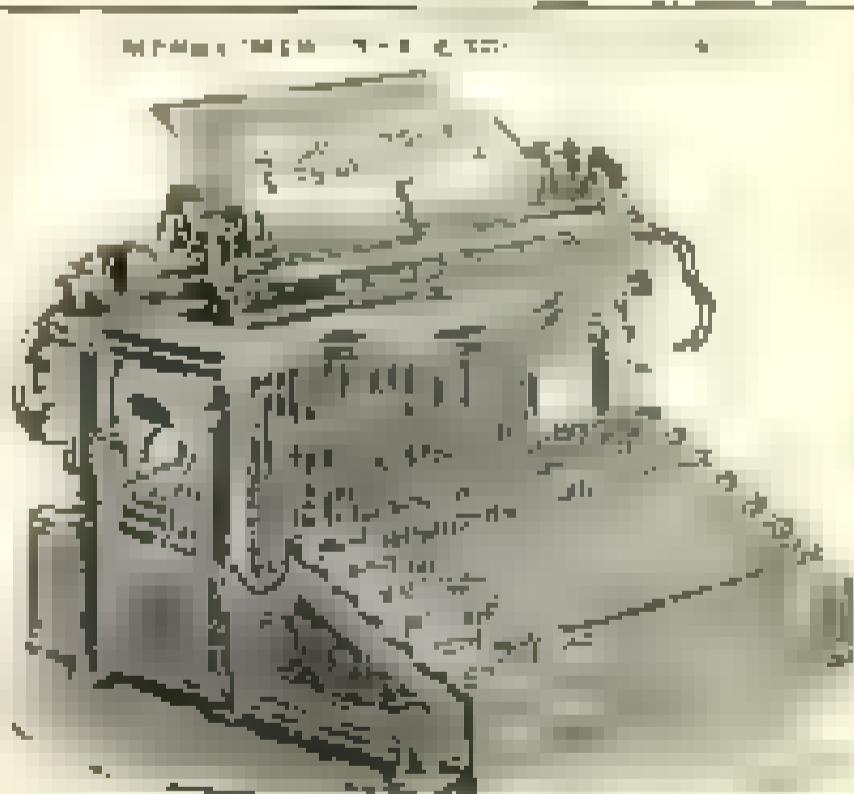
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